

[54] CAPACITANCE-TO-VOLTAGE  
TRANSFORMATION CIRCUIT

[75] Inventors: Allen A. Bukosky, Delavan; Paul P. Monroe, Janesville, both of Wis.

[73] Assignee: Bunker Ramo Corporation, Oak Brook, Ill.

[21] Appl. No.: 793,614

[22] Filed: May 4, 1977

[51] Int. Cl.<sup>2</sup> ..... H02M 7/00

[52] U.S. Cl. .... 363/59; 324/60 CD

[58] Field of Search ..... 320/1; 324/60 C, 60 CD, 324/61 R; 363/59, 60, 61, 178

## [56] References Cited

## U.S. PATENT DOCUMENTS

3,452,272	6/1969	Collins et al.	..... 324/60 CD
3,453,535	7/1969	Anglin	..... 324/60 CD
3,656,000	4/1972	Neatherly, Jr.	..... 324/60 CD
3,886,447	5/1975	Tanaka	..... 324/60 CD
3,947,760	3/1976	Noguchi et al.	..... 325/60 CD X
4,001,676	1/1977	Hile et al.	..... 324/60 CD
4,040,041	8/1977	Fletcher et al.	..... 324/60 CD X

Primary Examiner—William M. Shoop  
Attorney, Agent, or Firm—F. M. Arbuckle; J. Hoffman

## [57] ABSTRACT

A capacitance-to-voltage transformation circuit for providing an output voltage proportional to capacitive variations includes a variable capacitor, a reference voltage source, and circuit means for charging the variable capacitor to the reference potential. A switch means alternately connects the variable capacitor to the charging means and to ground at a cyclical rate determined by an oscillator clock. An impedance means coupled between the charging and switch means, develops a voltage drop thereacross of a magnitude directly proportional to capacitance variations of the variable capacitor.

In accordance with another aspect of the invention, the circuit includes a compensating means for nullifying any fixed capacitance component of the variable capacitor.

12 Claims, 2 Drawing Figures

